

(2)

AUTHOR: Ch'ien, Hsueh-sen

ORIG: None

TITLE: Chapter 14. Several problems in the future development of interplanetary travel

SOURCE: Hsing chi hang hsing kai lun, 1963, 233-306

TOPIC TAGS: interplanetary spacecraft, spacecraft launching, extraterrestrial launching

ABSTRACT: The need for interplanetary satellite stations inevitable in the course of future development, because there are many advantages in launching an interplanetary spacecraft from a satellite. The moon is also considered a station. The launching of a heavy booster rocket might present some technical problems such as transportation, handling and assembly. Therefore, it might be advisable to launch it from under water for which purpose the rocket has to be modified so that it will float. For economic reasons, booster rockets should be recovered for re-use. Recovery methods by aircraft and launching of second stage boosters from an aircraft are also discussed. Finally, the author predicts that interplanetary flight technology will be greatly advanced in the next few decades. Orig. art has: 10 figures.

Card 1/1

Card

AUTHOR: Ch'ien, Hsueh-sen

ORIG: None

TITLE: Chapter 13. Power sources in spacecraft.

SOURCE: Hsing chi hang hsing kai lun, 1963, 273-292

TOPIC TAGS: spacecraft propulsion, propulsion system, spacecraft power equipment, electric power, electric power source, solar energy, nuclear energy

ABSTRACT: Electrical energy is the most convenient power source for every piece of equipment in a spacecraft. A table of power consumption rates for each type of spacecraft is given for comparison purpose. Energy sources for electricity are classified into four groups for detailed discussion: 1) Chemical energy, 2) Solar energy, 3) Atomic energy, and 4) Radiation materials. A brief description of p-n junction theory is given prior to the introduction of solar photo cells. For a small capacity power source, batteries are very useful, however, for large capacity, a power system is needed to supply the energy. Various types of generators are available for space applications. Their structures, characteristics, advantages and disadvantages are discussed in detail. Turbine generators, thermocouple generators, thermionic generators, and electromagnetic fluid generators are mentioned. Orig. art. has: 27 figures and 3 tables.

Card 1/1

- 24 -

1178

CPYRGHT

FOIAb3b

CPYRGHT